



### Definition

```
def GroupTernary(op,size,rd,rc,rb,ra) as
  d ← RegRead(rd, 128)
  c ← RegRead(rc, 128)
  b ← RegRead(rb, 128)
  case op of
    G.MUX:
      a ← (c and d) or (b and not d)
  endcase
  RegWrite(ra, 128, a)
enddef
```

### Exceptions

none

Fig. 31E

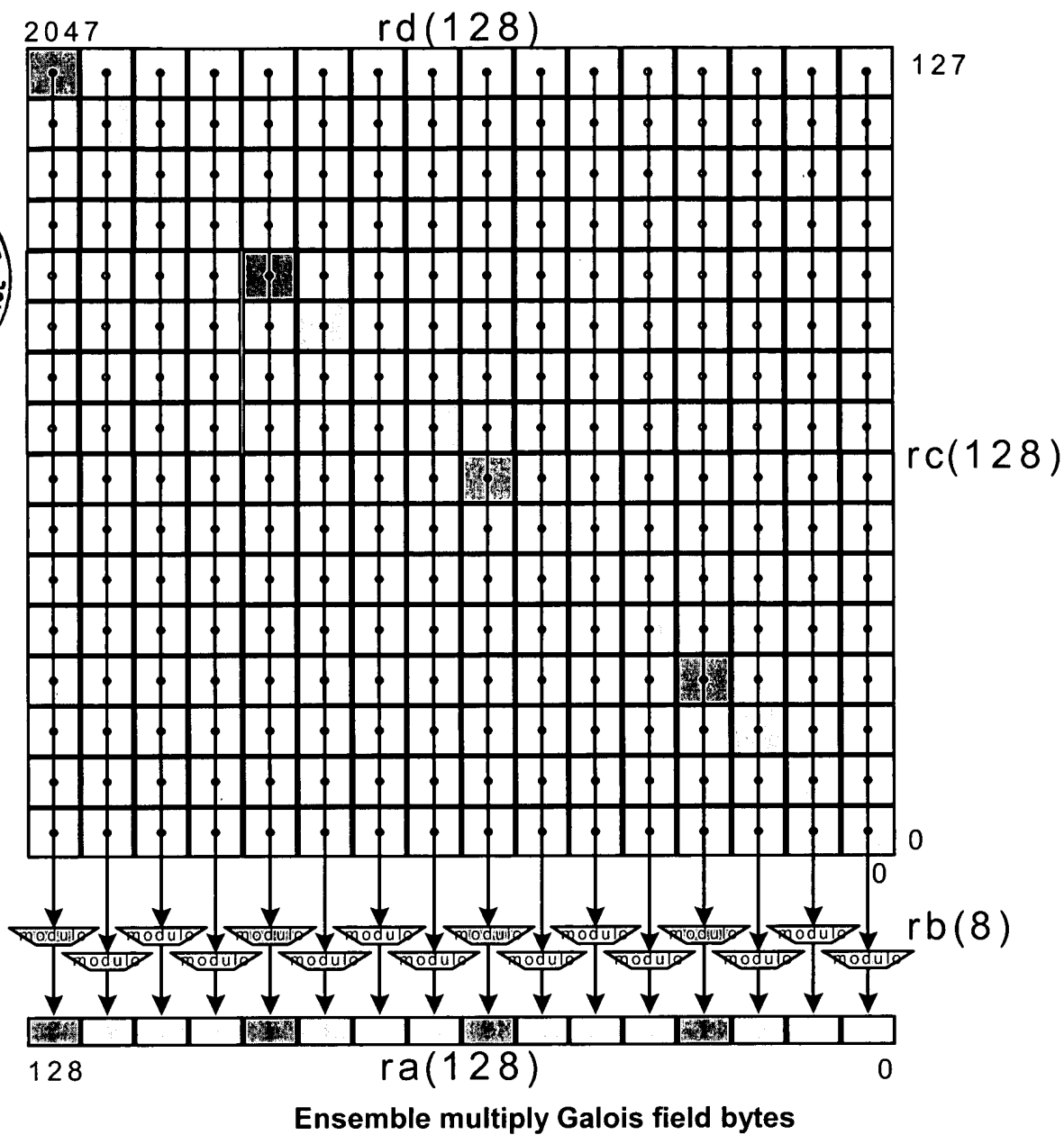


Fig. 42D

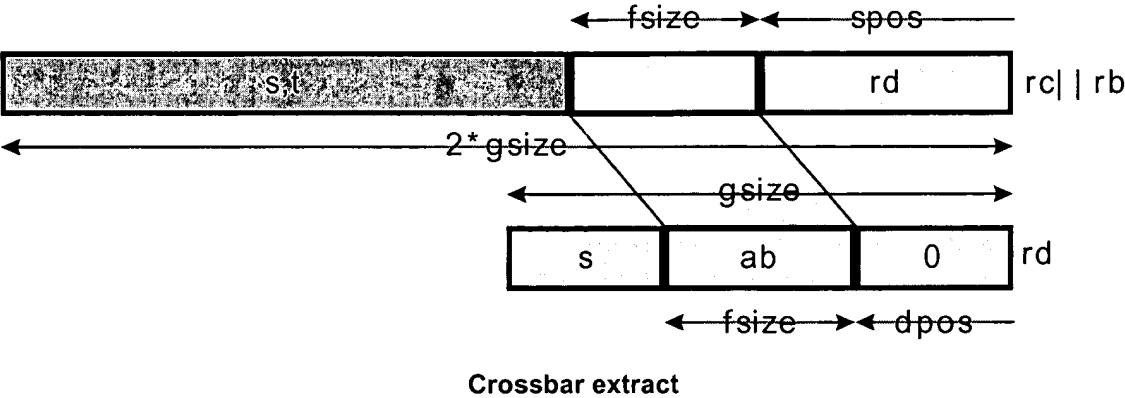


Fig. 44C

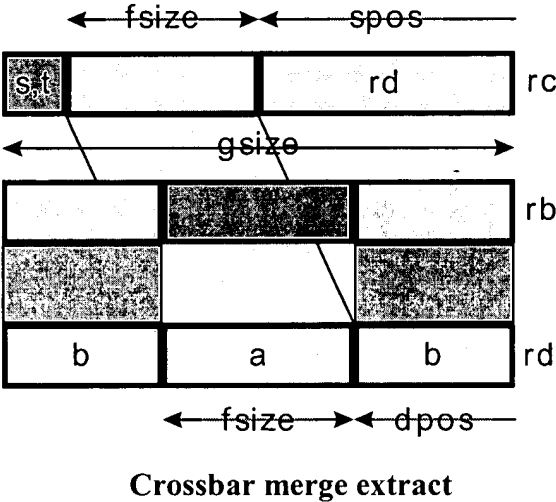


Fig. 44D

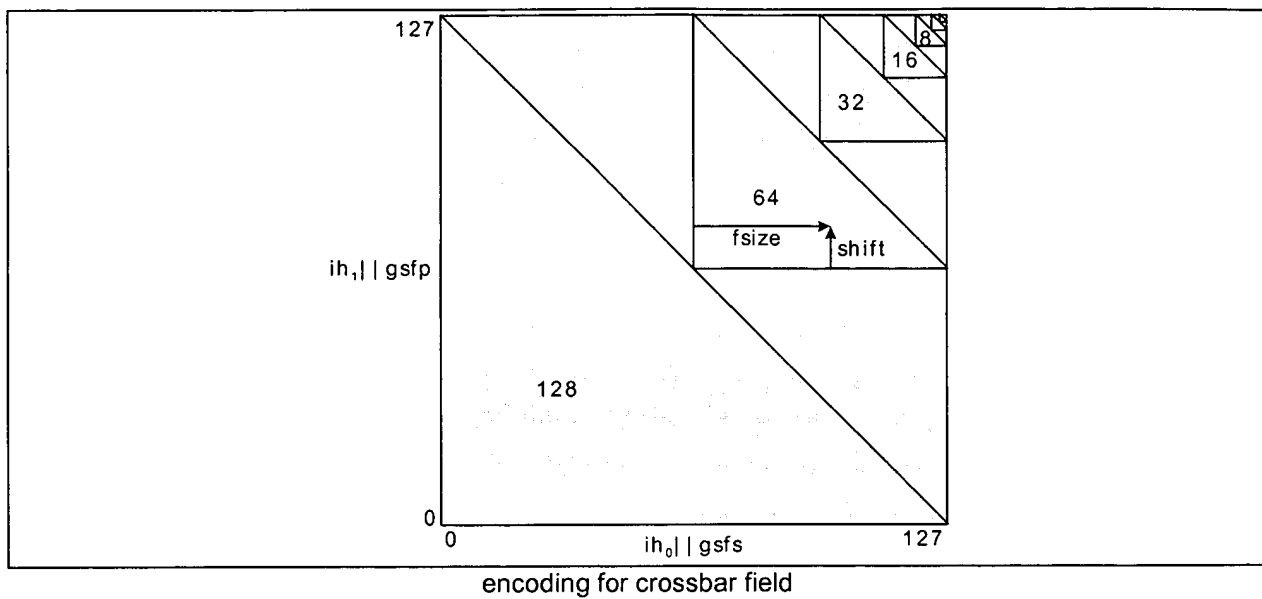


Fig. 45D

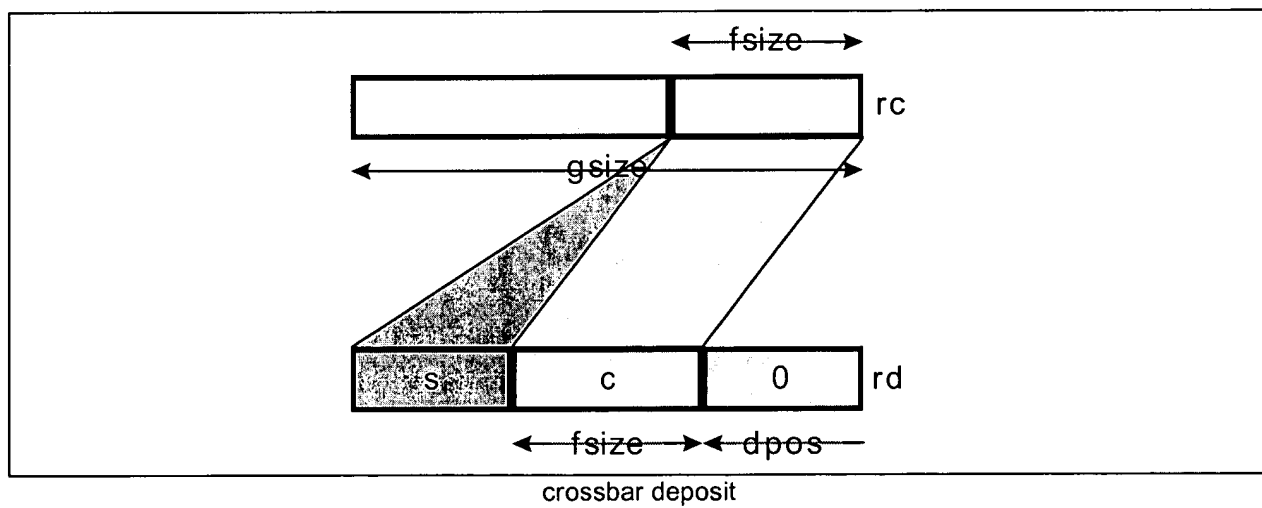
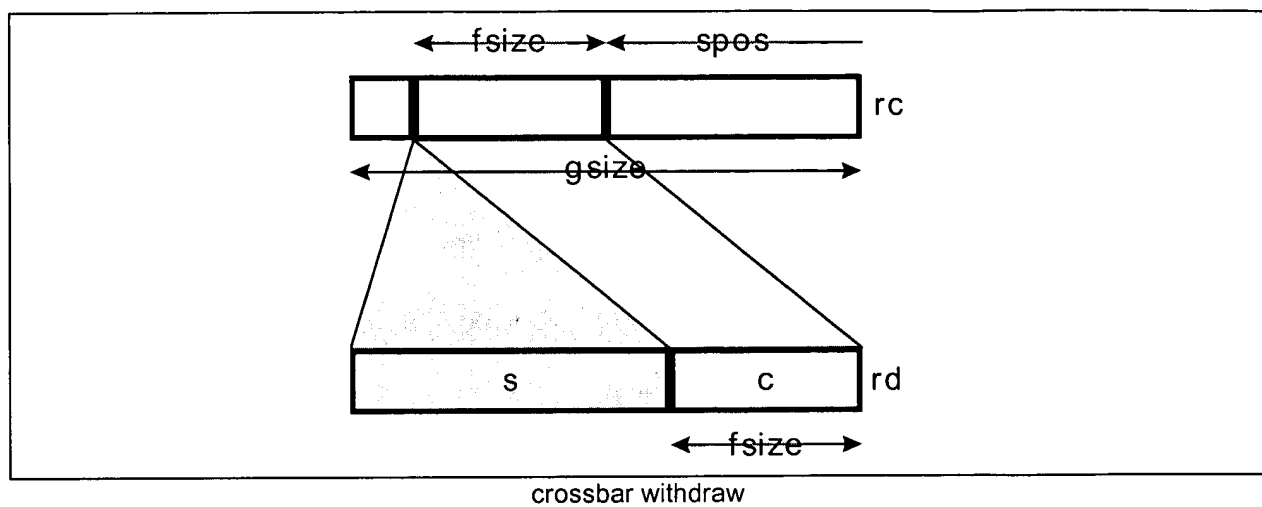


Fig. 45E



**Fig. 45F**

**Operation codes**

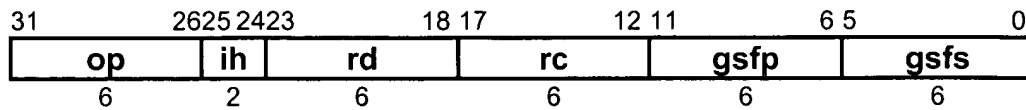
X.DEPOSIT.M.2	Crossbar deposit merge pecks
X.DEPOSIT.M.4	Crossbar deposit merge nibbles
X.DEPOSIT.M.8	Crossbar deposit merge bytes
X.DEPOSIT.M.16	Crossbar deposit merge doublets
X.DEPOSIT.M.32	Crossbar deposit merge quadlets
X.DEPOSIT.M.64	Crossbar deposit merge octlets
X.DEPOSIT.M.128	Crossbar deposit merge hexlet

**Fig 45G**

### Format

X.op.gsize rd@rc, isize, ishift

rd=xopgsize(rd,rc,isize,ishift)



assert isize+ishift ≤ gsize

assert isize ≥ 1

ih<sub>0</sub> || gsfs ← 128-gsize+isize-1

ih<sub>1</sub> || gsfp ← 128-gsize+ishift

Fig 45H

### Definition

```

def CrossbarFieldInplace(op,rd,rc,gsfp,gsfs) as
  c ← RegRead(rc, 128)
  d ← RegRead(rd, 128)
  case ((op1 || gsfp) and (op0 || gsfs)) of
    0..63:
      gsize ← 128
    64..95:
      gsize ← 64
    96..111:
      gsize ← 32
    112..119:
      gsize ← 16
    120..123:
      gsize ← 8
    124..125:
      gsize ← 4
    126:
      gsize ← 2
    127:
      raise ReservedInstruction
  endcase
  ishift ← (op1 || gsfp) and (gsize-1)
  isize ← ((op0 || gsfs) and (gsize-1))+1
  if (ishift+isize>gsize)
    raise ReservedInstruction
  endif
  for i ← 0 to 128-gsize by gsize
    ai+gsize-1..i ← di+gsize-1..i+isize+ishift || ci+isize-1..i || di+ishift-1..i
  endfor
  RegWrite(rd, 128, a)
enddef

```

### Exceptions

Reserved instruction

**Fig 45I**



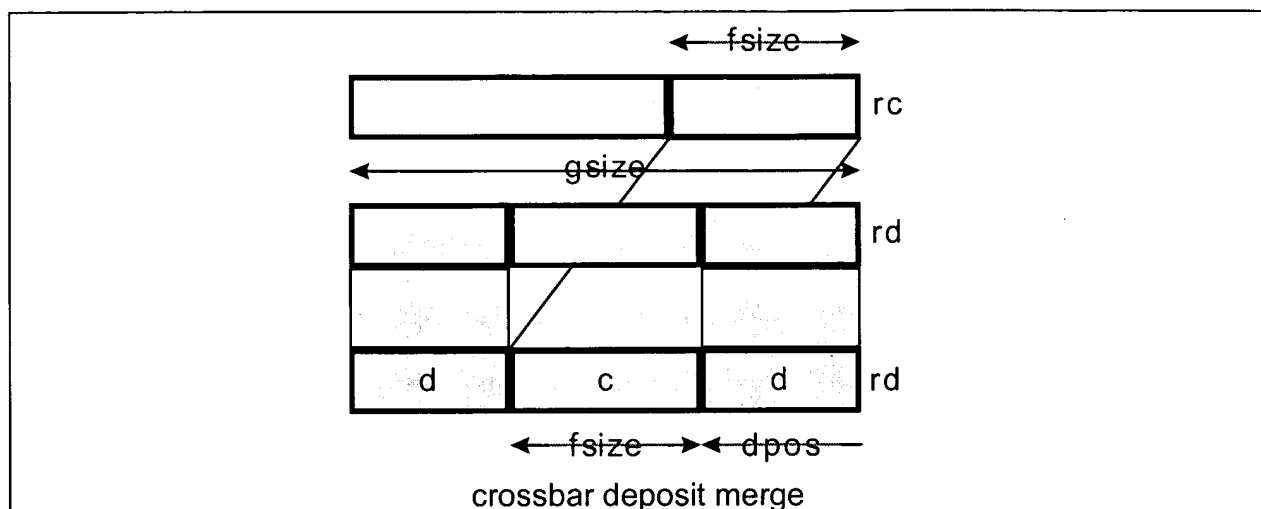


Fig 45J